

Textbook Alignment to the Utah Core – Algebra 1

This alignment has been completed using an “Independent Alignment Vendor” from the USOE approved list (www.schools.utah.gov/curr/imc/indvvendor.html.) Yes X No _____

Name of Company and Individual Conducting Alignment:
Ryan Foster, Independent Contractor

A “Credential Sheet” has been completed on the above company/evaluator and is (Please check one of the following):

☒ On record with the USOE.

☐ The “Credential Sheet” is attached to this alignment.

Instructional Materials Evaluation Criteria (name and grade of the core document used to align): Algebra 1 Core Curriculum

Title: Introductory Algebra, © 2006 (Lial) ISBN#: 0-321-29224-3 (SE); 0-321-28585-9 (TE)

Publisher: Pearson

Overall percentage of coverage in the *Student Edition (SE)* and *Teacher Edition (TE)* of the Utah State Core Curriculum: 98%

Overall percentage of coverage in *ancillary materials* of the Utah Core Curriculum: _____%

STANDARD I: Students will expand number sense to understand, perform operations, and solve problems with real numbers.

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| Percentage of coverage in the <i>student and teacher edition</i> for Standard I: <u>100</u>% | | Percentage of coverage not in student or teacher edition, but covered in the <i>ancillary material</i> for Standard I: _____ % | | |
| OBJECTIVES & INDICATORS | | Coverage in <i>Student Edition (SE)</i> and <i>Teacher Edition (TE)</i> (pg #'s, etc.) | Coverage in <i>Ancillary Material</i> (titles, pg #'s, etc.) | <i>Not covered in TE, SE or ancillaries</i> ✓ |
| Objective 1.1: Represent real numbers as points on the number line and distinguish rational numbers from irrational numbers. | | | | |
| a. | Define a rational number as a point on the number line that can be expressed as the ratio of two integers, and points that cannot be so expressed as irrational. | 40-41, 45-46, 95-106 | | |
| b. | Classify numbers as rational or irrational, knowing that rational numbers can be expressed as terminating or repeating decimals and irrational numbers can be expressed as non-terminating, non-repeating decimals. | 40-41, 45-46, 95-106 | | |
| c. | Classify <i>pi</i> and square roots of non-perfect square numbers as irrational. | 40-41, 45-46, 95-106 | | |
| d. | Place rational and irrational numbers on a number line between two integers. | 40-41, 45-46, 95-106 | | |

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| Objective 1.2: Compute fluently and make reasonable estimates with rational and irrational numbers. | | | | |
| a. | Simplify, add, subtract, multiply, and divide expressions with square roots. | 571-584, 615-626 | | |
| b. | Evaluate and simplify numerical expressions containing rational numbers and square roots using the order of operations. | 25-26, 29-30, 69-78, 95-106, 341-348, 391-402 | | |
| c. | Compute solutions to problems, represent answers in exact form, and determine the reasonableness of answers. | 33-38, 95-106 | | |
| d. | Calculate the measures of the sides of a right triangle using the Pythagorean Theorem. | 448-470, 563-570, 615-628 | | |
| STANDARD II: Students will extend concepts of proportion to represent and analyze linear relations. | | | | |
| Percentage of coverage in the <i>student and teacher edition</i> for Standard II: <u>100</u> % | | Percentage of coverage not in student or teacher edition, but covered in the <i>ancillary material</i> for Standard II: _____ % | | |
| OBJECTIVES & INDICATORS | | Coverage in <i>Student Edition</i> (SE) and <i>Teacher Edition</i> (TE) (pg #'s, etc.) | Coverage in <i>Ancillary Material</i> (titles, pg #'s, etc.) | <i>Not covered in TE, SE or ancillaries</i> ✓ |
| Objective 2.1: Represent and analyze the slope of a line. | | | | |
| a. | Identify the slope of a line when given points, a graph, or an equation. | 223-234, 257-272 | | |

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| b. | Identify horizontal and vertical lines given the equations or slopes. | 226-234, 257-272 | | |
| c. | Determine the effect of changes in slope or y-intercept t in $y = mx + b$. | 235-248, 257-272 | | |
| d. | Determine and explain the meaning of slopes and intercepts using real-world examples. | 239-248, 257-272 | | |
| Objective 2.2 Model and interpret problems having a constant rate of change using linear functions. | | | | |
| a. | Write algebraic expressions or equations to generalize visual patterns, numerical patterns, relations, data sets, or scatter plots. | 201-208, 257-272 | | |
| b. | Represent linear equations in slope-intercept form, $y = mx + b$, and standard form, $Ax + By = C$. | 235-248, 257-272 | | |
| c. | Distinguish between linear and non-linear functions by examining a table, equation, or graph. | 230 | | |
| d. | Interpret the slope of a linear function as a rate of change in real-world situations. | 230, 239-248, 257-272 | | |

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| Objective 2.3: Represent and analyze linear relationships using algebraic equations, expressions, and graphs. | | | | |
| a. | Write the equation of a line when given two points or the slope and a point on the line. | 237-248, 257-272 | | |
| b. | Approximate the equation of a line given the graph of a line. | 241, 247, 257-272 | | |
| c. | Identify the x - and y -intercepts from an equation or graph of a line or a table of values. | 211-222, 257-272 | | |
| d. | Graph linear relations and inequalities by plotting points, by finding x - and y intercepts, or by using the slope and any point on the line. | 209-222, 242-243, 247-248, 250-252, 254-272 | | |
| STANDARD III: Students will develop fluency with the language and operations of algebra to analyze and represent relationships. | | | | |
| Percentage of coverage in the <i>student and teacher edition</i> for Standard III: <u>100</u> % | | Percentage of coverage not in student or teacher edition, but covered in the <i>ancillary material</i> for Standard III: _____% | | |
| OBJECTIVES & INDICATORS | | Coverage in <i>Student Edition (SE)</i> and <i>Teacher Edition (TE)</i> (pg #'s, etc.) | Coverage in <i>Ancillary Material</i> (titles, pg #'s, etc.) | <i>Not covered in TE, SE or ancillaries</i> ✓ |
| Objective 3.1: Simplify polynomials and the quotient of monomials. | | | | |
| a. | Simplify and evaluate monomial expressions and formulas. | 341-348, 391-402 | | |

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| b. | Add and subtract polynomials. | 332-340, 391-402 | | |
| c. | Multiply monomials by a polynomial. | 349-356, 391-402 | | |
| d. | Multiply binomials. | 349-362, 391-402 | | |
| e. | Simplify the quotient of monomials using positive exponents. | 366-374, 391-402 | | |
| Objective 3.2: Solve and interpret linear equations and inequalities in various situations including real-world problems. | | | | |
| a. | Solve single-variable linear equations and inequalities algebraically and graphically. | 108-132, 171-190 | | |
| b. | Solve real-world problems involving constant rates of change. | 133-146, 181-190 | | |
| c. | Solve equations for a specified variable. | 151-161, 181-190 | | |
| d. | Solve proportions that include algebraic first-degree expressions. | 158-170, 181-190 | | |
| Objective 3.3: Solve and interpret pairs of linear equations and inequalities. | | | | |
| a. | Solve systems of two linear equations graphically and algebraically with and without technology. | 275-300, 319-330 | | |
| b. | Determine the number of possible solutions for a system of two linear equations. | 276-282, 319-330 | | |

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| c. | Graph a system of linear inequalities and identify the solution. | 313-330 | | |
| Objective 3.4: Factor polynomials with common monomial factors and factor simple quadratic expressions. | | | | |
| a. | Find the greatest common monomial factor of a polynomial. | 405-412, 457-470 | | |
| b. | Factor trinomials with integer coefficients of the form $x^2 + bx + c$. | 413-428, 457-470 | | |
| c. | Factor the difference of two squares and perfect square trinomials. | 429-436, 457-470 | | |
| Objective 3.5: Solve quadratic equations using factoring or by taking square roots. | | | | |
| a. | Solve quadratic equations that can be simplified to the form $x^2 = a$ where $a \geq 0$ by taking square roots. | 630-636, 673-686 | | |
| b. | Solve quadratic equations using factoring. | 437-444, 457-476, 653 | | |
| c. | Write a quadratic equation when given the solutions. | 445-476 | | |

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| STANDARD IV: Students will understand concepts from statistics and apply statistical methods to solve problems. | | | | |
| Percentage of coverage in the <i>student and teacher edition</i> for Standard IV: <u>83</u>% | | Percentage of coverage not in student or teacher edition, but covered in the <i>ancillary material</i> for Standard IV: _____% | | |
| OBJECTIVES & INDICATORS | | Coverage in <i>Student Edition</i>(SE) and <i>Teacher Edition</i> (TE) (pg #'s, etc.) | Coverage in <i>Ancillary Material</i> (titles, pg #'s, etc.) | <i>Not covered in TE, SE or ancillaries</i> ✓ |
| Objective 4.1: Objective 1: Summarize, display, and analyze bivariate data. | | | | |
| a. | Collect, record, organize, and display a set of data with at least two variables. | 239-240, 257-272 | | |
| b. | Determine whether the relationship between two variables is approximately linear or non-linear by examination of a scatter plot. | 202-208, 257-272 | | |
| c. | Characterize the relationship between two linear related variables as having positive, negative, or approximately zero correlation. | | | |
| Objective 4.2: Estimate, interpret, and use lines fit to bivariate data. | | | | |
| a. | Estimate the equation of a line of best fit to make and test conjectures. | 239-246, 257-270 | | |

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| b. | Interpret the slope and y -intercept of a line through data. | 239-246, 257-270 | | |
| c. | Predict y -values for given x -values when appropriate using a line fitted to bivariate numerical data. | 239-246, 257-270 | | |